

## Case Report

### A Rare Case of Peripheral Cysticercosis in a Young Female from South India

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Human Cysticercosis, a potentially deadly infestation, is the consequence of ingestion of eggs of *Taenia solium*. Cysticercosis is the most common parasitic infestation of the Central Nervous System, Muscle and Subcutaneous Tissue. About 54% of the patients present with subcutaneous nodules combined with nervous involvement. Cysticercosis is the most common Parasitic Disease of the Central Nervous System in the world but Cysticercosis cutis has been reported much less frequently (less than 2%). Here we are discussing a case of peripheral cysticercosis for which Surgery was done followed by medical treatment. Our patient came with a swelling on the left forearm near cubital fossa duration progressively increasing in size for the past 4 months. Complaints of pain over the swelling. MRI of the swelling was taken which showed a cystic swelling in the subcutaneous plane with a scolex in situ. After ruling out Neurocysticercosis, patient was taken up for excision of the cyst. Histopathology reported positive for cysticercosis with in situ scolex. Postoperative period uneventful and the patient was given a course of albendazole for two weeks. Majority of the patients will be presenting with Neurological Symptoms as Neurocysticercosis. Albendazole is considered as the treatment of choice in most of the cases and is cost effective. An alternate choice is praziquantel which might be given for some patients. Surgical management is preferred for peripheral cyst which is one of the rarest presentation.

[J Indian Med Assoc 2022; 120(4): 62-3]

**Key words :** Cysticercosis, Scolex, *Taenia solium*, Neurocysticercosis, Tapeworm infection.

All types of Cysticercosis are caused due to adult cestode larva of *Taenia solium*. Its also called as pork tape worm. In India, the first case of Cutaneous Cysticercosis was recorded by Campbell and Thomson in 1912. The ova of pork tapeworm are spread via the Faeco-oral route<sup>1</sup>. Most commonly it involves the Nervous System mainly in immunocompromised patients. Cysticercosis is a disease of ancient origin which has been identified in Egyptian Mummies. This disease has been endemic in countries like South America, Africa, China and India<sup>2</sup>. Acute inflammatory reactions can occur due to toxins released from the dead parasite.

Peripheral Cysticercosis is very rare and most of them can be treated conservatively based on the size. Tapeworm infections are more common in developing Countries where sanitation is poor. In India Cysticercosis is more prevalent in the Northern States of Bihar, Orissa, Uttar Pradesh and Punjab. Humans get infected after consuming raw or undercooked, infected meat or food and water contaminated with tapeworm eggs or through poor hygiene practices. In this paper we are going to discuss about a young girl from South India (Tamilnadu) diagnosed with Peripheral Cysticercosis and the line of treatment she underwent.

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Received on : 09/11/2021

Accepted on : 04/12/2021

#### Editor's Comment :

- Peripheral Cysticercosis is one of the novel diagnosis for a cutaneous swelling.
- Proper pre-operative diagnosis should be made and with adequate excision of the lesion there will be least chance for recurrence.

#### CASE REPORT

A 13-year-old female came with complaints of swelling on the left forearm near cubital fossa for four months duration, which had been progressively increasing in size. She complained of having pain over the swelling for the past two months. No history of fever or trauma. No previous Surgery done. She gave history of consuming pork meat once a month for past two years. Clinically patient was stable with no Neurological Symptoms.

**Local Examination** — Left forearm two centimetre distal to the cubital fossa there was a swelling of size 4x3 cm, firm in consistency, mobile, surface smooth & skin over swelling normal. There was no restriction of movement at the elbow joint or distal sensory loss. Peripheral pulses were palpable. She was evaluated initially with an Ultrasound of the left forearm over the swelling which showed a cystic swelling of size 4x3 cm with scolex in situ.

Subsequently MRI of the swelling was taken which showed a cystic swelling in the subcutaneous plane with a scolex in situ. After ruling out Neurocysticercosis with an MRI of the Brain, patient was taken up for excision of the cyst under Regional Anaesthesia. She underwent excision of cyst in toto. Histopathology reported positive for Cysticercosis with in situ scolex. Postoperative period was uneventful and sutures were removed on

postoperative day 7. Patient was given a course of albendazole for two weeks. On follow up after one month of Surgery there was no recurrence of lesion (Figs 1-5).

### DISCUSSION

Cysticercosis spread mainly occurs through fecal-oral. Human after accidental consumption of contaminated food, water, undercooked meat and poor practice of hand hygiene have high risk of procuring the disease. In *Taenia solium* lifecycle humans are considered as the definitive host and swine as the intermediate host. Cysticercosis is commonly seen in the brain and eyes, which together constitute 86% of these cases<sup>3</sup>.

Neurocysticercosis is considered as one of the preventable causes of seizures. It is also considered as the most common parasitic infection of the Central Nervous System. As by WHO statistics Neurocysticercosis is the cause for almost 30% of all Epilepsy cases in Endemic Countries and almost 3% seizure cases Globally<sup>4</sup>. Its more common in places where there is more close contact of animal husbandry with humans. The peripheral involvement of Cysticercosis is in the Muscles, Heart, Lungs, Peritoneum and Breast. Subcutaneous Cysticercosis is a relatively rare form of Cysticercosis but should always be kept in mind as a secondary diagnosis during the evaluation of subcutaneous swellings mainly in patients who consume pork meat or have close contact with animal husbandry.

Most of the cases of Peripheral Cysticercosis will be Asymptomatic and Pain will only arise due to compression or due to breakage of the cyst. Rarely patients can present with hypersensitivity reaction post breakage of the cyst. The clinical features of subcutaneous Cysticercosis depend on the location of the cyst the cyst burden, and the host reaction. It may cause painless or painful subcutaneous nodules. High resolution Ultrasound is a Valuable, Safe, Non-ionizing, Cost-effective, Widely-available and Easily-reproducible imaging tool for diagnosis of subcutaneous Cysticercosis. Magnetic resonance imaging will give detail images of the surrounding tissues and also details of any small nodules which were missed on Ultrasonography. Some centers use non contrast Computed Tomography (CT) scan of Brain for newly symptomatic patients<sup>5</sup>.

Main line of treatment for Neurocysticercosis and Asymptomatic Peripheral Cysticercosis is medical management. Taeniasis can be treated with single doses

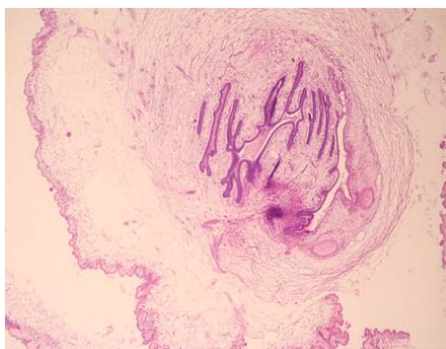


Fig 1 — Microscopy of cyst

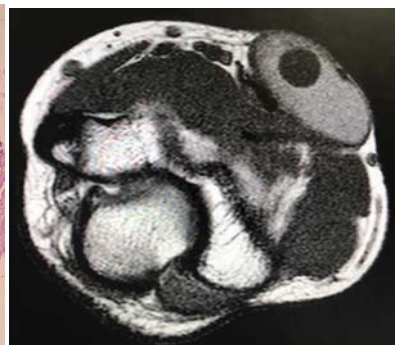


Fig 2 — MRI showing cyst with scolex



Fig 3 — Cystic swelling on the left forearm

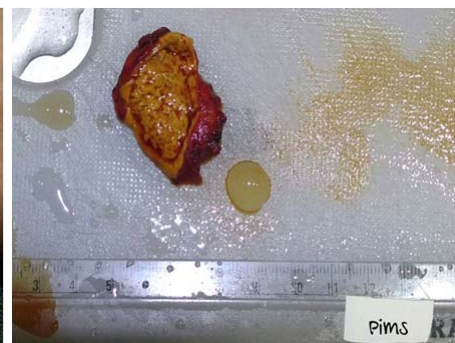


Fig 4 — Open cyst with scolex

of praziquantel (10 mg/kg) or niclosamide (adults and children over 6 years: 2 g, children aged 2-6 years: 1 g). Albendazole at 400 g for 3 consecutive days has also been used. Extended two weeks regimen of albendazole is useful for Peripheral Cysticercosis with multiple nodules. When it comes to management of symptomatic peripheral lesion, excision of cyst without capsule rupture is the proven to be the line of treatment. Postoperative period patients should be started on albendazole atleast for two weeks. In view of prevention, proper awareness have to be given about hygiene and also about the route of spread of Taeniasis.

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